

REMARKS

By this Amendment, claims 9, 10, 12, 13 and 18 are amended, claims 1-8 and 11 are canceled without prejudice or disclaimer to the subject matter therein, and claims 23-44 are newly added. Support for the amendment to claims 9, 10, 12, 13 and 18 and newly added claims 23-44 may be found, for example, in FIG. 11 and its corresponding description in the specification. No new matter has been added. After entry of this Amendment, claims 9-10 and 12-44 will remain pending in the patent application. Reconsideration and allowance of the present patent application based on the foregoing amendments and following remarks are respectfully requested.

Claim 1 was rejected under 35 U.S.C. §102(a) as being Applicant's Admitted Prior Art (AAPA).

Claim 1 has been canceled without prejudice or disclaimer, thus rendering moot the rejection of claim 1.

Claims 2-5 and 7-10 were rejected under 35 U.S.C. §103(a) based on AAPA in view of Bahai *et al.* (U.S. Pat. No. 6,522,706) (hereinafter "Bahai"). The rejection is respectfully traversed.

Claims 2-5 and 7-8 have been canceled without prejudice or disclaimer, thus rendering moot the rejection of claims 2-5 and 7-8.

With respect to claim 9, the Examiner conceded on page 6, line 11, of the Office Action, that AAPA fails to teach or suggest the formation of path using at least two correlation values. However, Applicant respectfully submits that claim 9 includes additional features that are novel over AAPA. For example, AAPA fails to teach or suggest a method for recognizing a valid receiving path for demodulating received signals out of a plurality of receiving paths in a CDMA wireless telecommunication system, comprising, *inter alia*, comparing the peak correlation value with a predetermined path recognition threshold value; and determining whether there is a distortion on the path waveform when the peak correlation value is greater than the predetermined path recognition threshold value.

AAPA merely discloses a conventional path recognizing process performed by a conventional base band signal processor. AAPA discloses in FIG. 2 that the correlation values are compared with the noise threshold value (step 16), and that if all of the correlation values are larger than the noise threshold value, a peak correlation value out of the correlation values is compared with the path recognition threshold value (step 18). However, AAPA fails to disclose, teach or suggest determining whether there is a distortion on the path

waveform when the peak correlation value is greater than the predetermined path recognition threshold value. In other words, AAPA is completely silent about the possibility of determining whether there is distortion on the path waveform when determining that the correlation value is greater than the predetermined noise threshold value. For at least this reason, claim 9 is patentable over AAPA.

Bahai fails to remedy the deficiencies of AAPA. Bahai discloses a method for estimating the delay spread of a received signal waveform. (See col. 2, lines 12-47). Bahai discloses that, depending on the degree of the estimated delay spread, an appropriate demodulation technique is selected for optimizing the receiver performance over a range of channel multi-path conditions. Bahai is, however, silent about determining whether there is a distortion on the path waveform when the peak correlation value is greater than the predetermined path recognition threshold value. It is noted that Bahai was cited for the purpose of teaching the use of peak correlation and non-peak correlation values that may be neighboring. Therefore, any reasonable combination of AAPA and Bahai cannot result, in any way, in the invention of claim 9. Claim 10 depends from claim 9, and is therefore patentable for at least the same reasons provided above related to claim 9, and for the additional features recited therein. Therefore, claims 9-10 are allowable.

Accordingly, reconsideration and withdrawal of the rejection of claims 9 and 10 under 35 U.S.C. §103(a) based on AAPA in view of Bahai are respectfully requested.

Claim 6 was rejected under 35 U.S.C. §103(a) based on AAPA in view of Bhagalia *et al.* (U.S. Pat. No. 5,815,798) (hereinafter "Bhagalia"). Claim 11 was rejected under 35 U.S.C. §103(a) based on AAPA in view of Yugawa (U.S. Pat. No. 6,233,272).

Claims 6 and 11 have been canceled without prejudice or disclaimer, thus rendering moot the rejection of claims 6 and 11.

Claims 12-16 and 18-21 were rejected under 35 U.S.C. §103(a) based on AAPA in view of Yugawa and further in view of Bahai and ITO (U.S. Pat. No. 6,553,059). The rejection is respectfully traversed.

Claim 12 recites a CDMA wireless telecommunication mobile station for receiving a set of telecommunication signals through a telecommunication path from a base station, comprising, *inter alia*, a comparator for comparing the correlation values with a predetermined noise threshold value and comparing a peak correlation value with a predetermined path recognition threshold value; and a waveform distortion detector for determining whether there is a distortion on a path waveform of the path represented as a correlation profile, the correlation profile being formed based on said at least two correlation

values when said peak correlation value is greater than said path recognition threshold value. As conceded in paragraph 7 (page 7) of the Office Action, AAPA, Yugawa and Bahai fail to disclose the use of a waveform distortion detector to detect distortions in the correlation waveform. However, the Examiner relied on ITO as allegedly teaching this feature. Applicant disagrees and respectfully submits that ITO fails to teach or suggest a waveform distortion detector as recited in claim 12.

ITO discloses a correlation calculating apparatus in which by multiplying a reception signal by a spreading code, a correlation value which gives a correlation degree for the spreading code is calculated over a predetermined phase width in units of predetermined length. (See col. 3, lines 35-40). ITO shows in FIGS. 8 and 9 flowcharts explaining the processing sequence. Referring to the description of FIG. 8, ITO clearly indicates that the sequence is common to each embodiment. (See col. 4, lines 10-11). As can be seen in FIG. 8, in col. 9, lines 28-33 and from col. 8, line 65 to col. 9, line 19, ITO merely discloses using the noise threshold value for path selection with respect to correlation detection. ITO makes, however, no mention of a waveform distortion detector for determining whether there is a distortion on a path waveform of the path according to a correlation profile, the correlation profile being formed based on the at least two correlation values when the peak correlation value is greater than the path recognition threshold value. Applicant notes that the Examiner has failed to identify where in ITO such a waveform distortion detector is disclosed. In that regard, Applicant notes that the excerpt of ITO (col. 9, lines 28-33) cited by the Examiner is silent about that element. Because ITO clearly fails to disclose the waveform distortion detector as recited in claim 12, the combination of AAPA, Yugawa, Bahai and ITO cannot result, in any way, in the invention of claim 18. Therefore, claim 12 is allowable. Claims 14-16 depend from claim 18 and are therefore patentable over AAPA, Yugawa, Bahai and ITO or a combination thereof for at least the same reasons provided above related to claim 12, and for the additional features recited therein.

Similarly, claims 18-21 are patentable over AAPA, Yugawa, Bahai and ITO or a combination thereof for at least the same reasons provided above related to claim 12, and for the additional features recited therein. Namely, claims 18-21 are patentable at least because these claims recite a CDMA wireless telecommunication system comprising a mobile station for receiving a set of telecommunication signals through a telecommunication path from a base station, the mobile station comprising, *inter alia*, a waveform distortion detector for determining whether there is a distortion on a path waveform of the path according to a correlation profile, the correlation profile being formed based on the at least two correlation

values when the peak correlation value is greater than the predetermined path recognition threshold value. As mentioned previously, none of the cited references disclose, teach or suggest such a feature. Therefore, claims 18-21 are allowable.

Accordingly, reconsideration and withdrawal of the rejection of claims 12-16 and 18-21 under 35 U.S.C. §103(a) based on AAPA in view of Yugawa and further in view of Bahai and ITO are respectfully requested.

Claim 17 was rejected under 35 U.S.C. §103(a) based on AAPA in view Yugawa and further in view of Bahai, ITO and Bhagalia. The rejection is respectfully traversed.

Claim 17 depends from claim 12 and is therefore patentable for at least the same reasons provided above related to claim 12 and for the additional features recited therein. As noted above, neither AAPA, Yugawa, Bahai, nor ITO discloses a waveform distortion detector for determining whether there is a distortion on a path waveform of the path according to a correlation profile, the correlation profile being formed based on said at least two correlation values when said peak correlation value is greater than said predetermined path recognition threshold value.

Bhagalia fails to remedy the deficiencies of AAPA, Yugawa, Bahai, and ITO. Bhagalia discloses a method of controlling transmitting power in a subscriber terminal of a wireless telecommunication system that includes establishing a downlink communication path from a transmitter of a central terminal to a receiver of the subscriber terminal. (See col. 2, lines 17-22). Bhagalia also discloses that a downlink signal is transmitted from the transmitter of the central terminal and received at the receiver of the subscriber terminal. (See col. 2, lines 22-24). Bhagalia further discloses that the downlink signal includes a power control signal that is used to adjust a transmitting power of the transmitter in the subscriber terminal in order to establish an uplink communication path between the transmitter of the subscriber terminal and a receiver at the central terminal. (See col. 2, lines 24-29). It is noted that Bhagalia was only cited for the purpose of allegedly teaching the limitation recited in claim 17. Therefore, any reasonable combination of AAPA and Bhagalia cannot result, in any way, in the invention of claim 17. Therefore, claim 17 is allowable.

Accordingly, reconsideration and withdrawal of the rejection of claim 17 under 35 U.S.C. §103(a) based on AAPA in view Yugawa and further in view of Bahai, ITO and Bhagalia are respectfully requested.

Claim 22 was rejected under 35 U.S.C. §103(a) based on AAPA in view of Yugawa and further in view of Bahai, ITO, and Enge *et al.* (U.S. Pat. No. 6,031,882) (hereinafter “Enge”). The rejection is respectfully traversed.

Claim 22 depends from claim 18 and is therefore patentable over AAPA, Yugawa, Bahai, or ITO, or a combination thereof for at least the same reasons provided above related to claim 18 and for the additional features recited therein. Namely, claim 22 is patentable because it recites an apparatus comprising, *inter alia*, a waveform distortion detector for determining whether there is a distortion on a path waveform of the path according to a correlation profile, the correlation profile being formed based on said at least two correlation values when said peak correlation value is greater than said predetermined path recognition threshold value.

Enge fails to remedy the deficiency of AAPA, Yugawa, Bahai, and ITO. Enge discloses a method and an apparatus for using a plurality of correlators to identify detailed features of a correlation function at and adjacent to the correlation peak. Applicant finds no teaching or suggestion in Enge of a waveform distortion detector for determining whether there is a distortion on a path waveform of the path according to a correlation profile, the correlation profile being formed based on said at least two correlation values when said peak correlation value is greater than said predetermined path recognition threshold value. Applicant notes that Enge was cited for teaching that the existence of the distortion on the path waveform may be determined according to a slope derived from said two correlation values. Therefore, the combination of AAPA, Yugawa, Bahai, ITO and Enge cannot result in the invention of claim 22.

Accordingly, reconsideration and withdrawal of the rejection of claim 22 under 35 U.S.C. §103(a) based on AAPA in view of Yugawa and further in view of Bahai, ITO, and Enge are respectfully requested.

Claims 23-44 are presented to recite additional features of the invention, shown in FIG. 11 and the corresponding description. Claims 23-34 also define over the prior art at least by virtue of their dependency from claims 10, 12 and 18. Claims 35-43 and 44 are patentable over the cited references at least because these claims recite, respectively, a base band signal processor and a CDMA wireless telecommunication system comprising, *inter alia*, a waveform distortion detector for determining whether there is a distortion on a path waveform of said path according to a correlation profile, said correlation profile being formed based on said at least two correlation profile values when said peak correlation value is greater than said predetermined path recognition threshold value. As mentioned previously, none of the cited references disclose, teach or suggest this feature. Therefore, new claims 23-44 are allowable.


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Applicant has addressed the Examiner's rejections and respectfully submits that the application is in condition for allowance. A notice to the effect is earnestly solicited.

If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,
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